On the origin of the North of England coal-field.

On the cause of the crystalline structure of the magnesian limestone of Sunderland.

On the various systems which have been adopted in classifying the Animal Kingdom. The principles of the *Chronogenic classification* as applied by the lecturer to the Tetrabranchiate Cephalopods[*], Reptiles and Mammals in 1841.

An outline of the Comparative Histology of Plants. On the vegetation of the various geological periods.

An outline of the science of Conchology. On the Testaceous Mollusks of the various geological periods. The Tetrabranchiate Cephalopodous type traced throughout its principal generic modifications.

An attempt to graduate the principal reptilian and mammalian groups of the various geological periods into existing forms according to the principles of the chronogenic classification.

The work will be illustrated with numerous diagrams and figures ; and it is intended to publish it by subscription.

METEOROLOGICAL OBSERVATIONS FOR DEC. 1844.

Chiswick.—December 1—3. Overcast.   4. Cloudy and cold : sharp frost. 5. Frosty : severe frost at night.   6. Frosty and foggy: severe frost.   7. Hazy : slight frost.   8. Dry and frosty : sleet.   9. Overcast.   10. Cold and dry.   11. Dusky haze : clear and frosty.   12. Foggy : overcast.   13. Thick haze : overcast. 14. Hazy : densely overcast.   15. Slight thaw : foggy.   16. Foggy.   17. Dense fog.   18. Foggy : fine at night.   19. Drizzly : boisterous.   20. Overcast : clear and cold : boisterous.   21, 22. Cold and dry : overcast.   23. Overcast.   24. Hazy and cold.   25. Overcast.   26, 27. Dense fog.   28. Fine : overcast.   29. Drizzly : rain.   30. Foggy.   31. Hazy.— Mean temperature of the month 6°·8 below the average.

Boston.—Dec. 1. Cloudy.   2. Cloudy : very dark day.   3. Cloudy : rain early A.M.   4. Cloudy.   5, 6. Fine.   7. Cloudy.   8. Fine : snow P.M.   9—16. Cloudy.   17. Foggy : rain early A.M.   18. Rain : rain P.M.   19. Cloudy.   20— 22. Fine.   23—25. Cloudy.   26—30. Foggy.   31. Foggy : rain early A.M.

Sandwich Manse, Orkney.—Dec. 1. Bright : cloudy.   2. Cloudy : drops.   3. Cloudy.   4. Bright : clear.   5. Bright : cloudy.   6. Bright: frost : cloudy : frost. 7, 8. Bright : frost : hazy.   9. Showers.   10, 11. Showers : sleet.   12. Cloudy : showers.   13—15. Snow-showers.   16, 17. Showers.   18. Showers : clear: frost. 19. Clear : frost : clear : showers.   20. Bright : clear : frost.   21. Clear : frost. 22. Frost : clear : thaw.   23. Cloudy : thaw.   24. Cloudy.   25. Cloudy : showers. 26. Cloudy : frost : cloudy.   27. Cloudy : frost : clear.   28. Cloudy : damp. 29. Fog : damp.   30. Bright : cloudy.   31. Showers : cloudy.

Applegarth Manse, Dumfries-shire.—Dec. 1. Fair, but cloudy.   2, 3. Fair and mild.   4—11. Frost.   12. Frost : slight fall of snow.   13. Frost.   14, 15. Frost : cloudy.   16. Frost : very slight.   17. No frost.   18. No frost : rain.   19—21. Frost.   22. Frost : very mild.   23—26. Frost.   27. Frost : mild and fine.   28. Frost A.M. : rain P.M.   29. Thick fog.   30. Frost : shower P.M.   31. Frost : fog.

Mean temperature of the month	33°·8
Mean temperature of Dec. 1843	46 ·4
Highest temperature 27th day	43 ·5
Lowest temperature 20th day	20 ·0
Mean temperature of spring-water	43 ·6
Mean temperature of ditto Dec. 1843 ...	46 ·1

---

* Vide Annals of Nat. Hist. Oct. 1844.